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A magazine all about preschool, elementary and secondary education

Schoolscapes

Best Wishes!

Published by the *Direction générale de la formation des jeunes*

Networks for Student Success

Francine Payette

Schools in the Age of Information and Communications Technologies

In Québec, even the smallest classroom in a school in the most remote region can now find a window on the world through the magic of the computer screen. Computer technology enables every student to become part of our global village and every classroom to gain access to a network of extraordinary richness. Thanks to the computer, inexhaustible resources of knowledge are now available to everyone, from preschool to elementary and secondary school. This gives teachers an opportunity to make maximal use of their teaching expertise to create stimulating learning situations. With the teacher's guidance, such situations can help students see more clearly the meaning of the task at hand, develop tools to appropriate knowledge and construct references for understanding the world. During the Estates General on Education, the potential of these technologies was already being considered, not only as a means of furthering learning, but also of ensuring equality of opportunity for all students, in whatever region of Québec they may live.

The experiences showcased in this issue of *Schoolscapes* represent avenues of innovation that we hope will inspire you. The teachers in these articles are all learning specialists and their professional role as specialists is articulately explored. Nevertheless, teachers cannot play this role without the support of certain structural elements gradually being put into place. In this issue we highlight the experience of three school boards—Laval, Laurentides and Lanaudière—that

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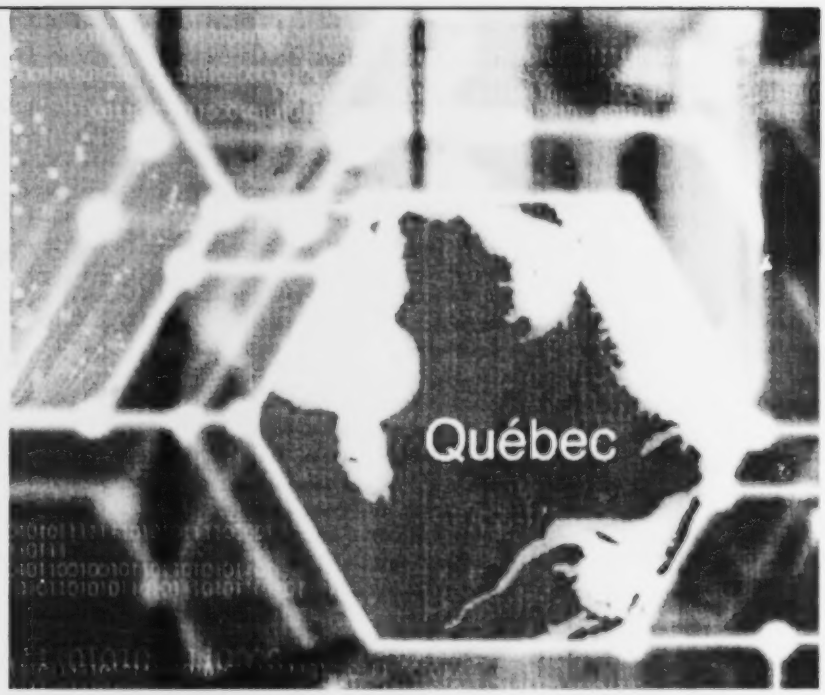

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have acquired an intranet network serving their 240 schools. We visit the Pontiac High School in Shawville, a demonstration of the initiative of the Western Québec, Central Québec and Eastern Shores school boards, which have designed a wide-area education and community services network to serve the needs of small communities. We visit the Christ-Roi school in Saint-Camille and learn about a learning-support project that extends to the Jacques-Rousseau school of the Commission scolaire de la Baie James and the Saint-Coeur de Marie school in Rivière-à-Pierre. This project, *Schools in Remote Regions*, was developed by the Ministère de l'Éducation in partnership with the Centre francophone d'informatisation des organisations (CEFRIO) and Université Laval. These initiatives are among many being carried out in other education communities, for example in Norway and several other Canadian provinces. In Québec, the technological infrastructure benefits from the Réseau pour le développement des compétences par l'intégration des technologies (RECIT), which supports experimentation and projects carried out by both students and teachers. In addition to acquainting you with a number of networking experiments, *Schoolscapes* draws your attention to the Web sites of the Ministère de l'Éducation and Livres Ouverts.

The vitality of human communities depends on the richness of their interaction. We also invite you to become acquainted with the project *Vivons ensemble au rythme des jeunes du monde* and to share in the enthusiasm of the organizers of the educational section of the World Youth Championships. A look at the Web site of the games may inspire you to create a project in your own school related to one of the 160 participating countries. Closer to home, we suggest you consider the student exchange program offered by the Ministère des Relations avec les Citoyens et l'Immigration (MRCI).

We hope you enjoy this issue.

Francine Payette
for the *Schoolscapes* team

Christ-Roi School in Saint-Camille

A Small School with Big Plans

The community of Saint-Camille decided long ago to make every possible effort to keep its school open. Today, it is involved in an ambitious project that could solve a host of problems faced by schools in remote regions.

Claudine St-Germain

You take the Eastern Townships highway to Sherbrooke and then head north some 40 kilometres along a small and winding country road. Rounding a bend, you catch sight of a charming village set among fields and mountains. Welcome to Saint-Camille, a little agricultural municipality of 450 inhabitants that lies halfway between Sherbrooke and Asbestos.

Christ-Roi elementary school is located at the heart of the village. Its 89 students are divided into four classes: preschool (four- and five-year-olds) and cycles one, two and three. As well as serving the people of Saint-Camille, it also welcomes students from the nearby community of Ham-Sud.

Fifteen years ago, barely 40 students were attending Christ-Roi school, the reflection of a disturbing drop in the town's population. At that point, the people of Saint-Camille decided to take action. By making their school the focal point of their community project, they searched for solutions to stabilize and increase the population. They decided on a path of cultural development and founded P'tit Bonheur, a multidisciplinary cultural centre. Organizations were created, and artists came and settled in the village. Today, there are as many artists and craftspeople as there are farmers.

Fifteen years ago, barely 40 students were attending Christ-Roi school.

Upon becoming principal of the Christ-Roi school two years ago, Hugues Émond discovered a very dynamic community with a strong commitment to its school. "Here are people and organizations who share common goals and who believe that great things can be done by people who live in small villages," explains Émond. "Cooperation, sharing, communication and self-esteem are very important values in the community." For example, twice a week, senior citizens prepare a meal at P'tit Bonheur for the school's students. Originally organized to encourage the interaction between grandparents and grandchildren, these meals have become the meeting place for the villagers.

Such values are important, since Saint-Camille school is faced with many challenges. As with most small schools, the teaching staff does not live in the municipality and must often be renewed (half of the school team was new in September). School busing gives cause for logistical headaches, due to the distances that must be covered–many children are bused to school from over an hour away each morning. The principal divides his time between two schools, as do the specialized teachers (some teach in as many as five schools in the region this year). Multi-program classrooms are an unavoidable fact, and the teachers feel isolated because they have no other colleagues from the same cycle with whom they can talk.

Breaking Through the Isolation

For Christ-Roi school, the *Schools in Remote Regions* project was timely. New technologies can in fact broaden the horizons of their students and teachers by enabling resources and ideas to be shared, which would not have been possible otherwise.

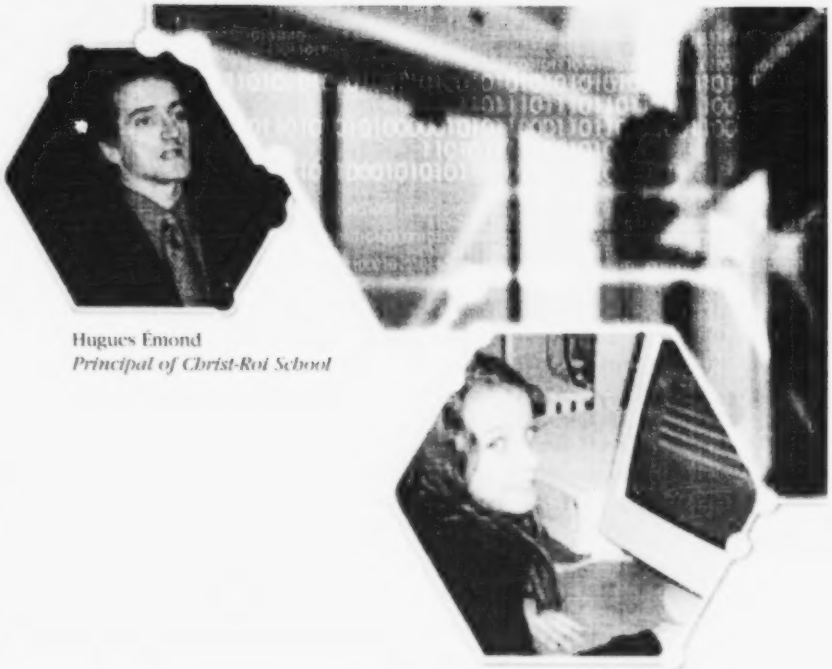
The school team therefore designed a project with four components. The first deals with the sharing of work and student learnings. "In Elementary 3, there are only ten students," explains Émond. "These children have been together for three years, and have always shared their knowledge with each other. We want to understand how ICT can help them to get in touch and to pursue their learning with students from elsewhere." This year, Cycle Two and Three classes will be paired with classes from the school in

Wotton, a municipality with a larger population. If the results are conclusive, the experience could then also benefit other small schools in the area.

The second component involves the creation of a teacher's community. "We have long been encouraging teachers from the different schools to exchange ideas with each other in order to break through their isolation," continues the director. "But it isn't easy. In grouping their students by common projects, which they will manage together, it will no doubt be easier for teachers to initiate a communication process and to promote a greater sharing of pedagogical practices."

Thirdly, the Saint-Camille school will experiment with the creation of what it calls "community-classrooms" or "home-classrooms." To reduce the long hours they spend on the bus, students could occasionally pursue their education at home or in a neighbouring community centre.

Finally, the fourth component deals with student services. "At times, students or members of the school team need some timely and speedy guidance from a special education teacher, speech therapist or psychologist," says Émond. "We will try to see if this type of guidance could be possible through the networking of the school."



Hugues Émond
Principal of Christ-Roi School

ZAR, Towards a School Network

The tool that was designed to meet all these needs is called ZAR (zone de développement des apprentissages en réseau). This e-learning platform, accessible through the Internet, will allow students and teachers to telecollaborate on common projects. Communication links are provided by various means, including instant messaging, chat and discussion groups. Teachers can access students' files at all times and can monitor the progress of their work. Evaluation is facilitated by the fact that the platform keeps a record of everyone's learning.

For example, in a given project, a teacher may post the guidelines to follow and organize student teams. On the platform, students may find the tools they need to do their work, communicate with their teammates, ask questions of the teacher if necessary, and archive their work as the project unfolds. Once completed, their work can be posted on the ZAR bulletin board, where it can be admired by their parents and friends.

At the beginning of October, the children started getting acquainted with the platform by learning how to send messages to one another. Teachers drew up the projects that would be carried out during the year with ZAR. "This is a very stimulating challenge," says Catherine Giguère, a Cycle Two teacher. "The support we receive as a pilot school provides us with excellent conditions. We have time, financial resources and good technical support. This is a good thing because the project also entails lots of extra work. We have a lot to learn about the technology itself and about this new pedagogical practice. Time is also needed for the discussions between teachers and meetings with the university researchers who are evaluating the project. But once everything is under way, I think that the total workload will come out to about the same as before."

You can visit ZAR at <www.zar.ca>

True to the values of the community, Christ-Roi school has invited the people of Saint-Camille to provide feedback on the *Schools in Remote Regions* project. Hopefully the other small schools in the region, and even the whole province, will benefit from ZAR. "The platform was developed to be easily adopted and adapted by different communities that live with the same type of problems that we do," says Émond. "The ultimate goal is to facilitate the success of all students by providing everyone with the same opportunities."

Spotlight on Schools

Pascale Sauvé

Along with the Christ-Roi School in Saint-Camille, two other Québec schools will receive special attention, having been chosen to participate in pilot projects within the framework of the *Schools in Remote Regions* project. Selected for their distinctiveness as well as for the dynamic quality of their communities, these schools will be an integral part of the action-research project carried out by CEFRIO and its partners. What is the profile of these schools? What are their expectations? *Schoolscapes* has the scoop.

The Jacques-Rousseau school, under the jurisdiction of the Commission scolaire de la Baie-James, is located in Radisson in northern Québec. The town was founded in 1974 to house workers who had come to take part in the construction of the La Grande hydroelectric complex. Once construction was over, most of Radisson's inhabitants left the town, but a few diehards, who had fallen in love with the region, decided to put down roots there. Thus they came to establish Québec's northernmost non-Native community. Radisson now has 350 inhabitants and plays host to some 100 non-resident workers.

The Jacques-Rousseau school is located in this isolated community in the middle of the taiga, north of the 53rd parallel. It is the only school in the town, with preschool, elementary and secondary school students. This year, 69 students attended the school: 45 at the preschool and elementary levels and 24 at the secondary level. Given the small school population, most of the groups are combined to form multi-age classes covering several programs. There are six full-time teachers on staff, while two other educators work part time to provide physical education classes and student support services.

A Dynamic Community

"Distance and isolation: these are the realities of our environment," says Hélène Dessureault, principal of the Jacques-Rousseau school. Indeed, the closest settlement, Matagami, is 600 kilometres away, while Chibougameau is some 1000 kilometres distant. These great distances create certain problems with respect to school organization, the equitable supply and distribution of services, and education and assistance for both teachers and students.

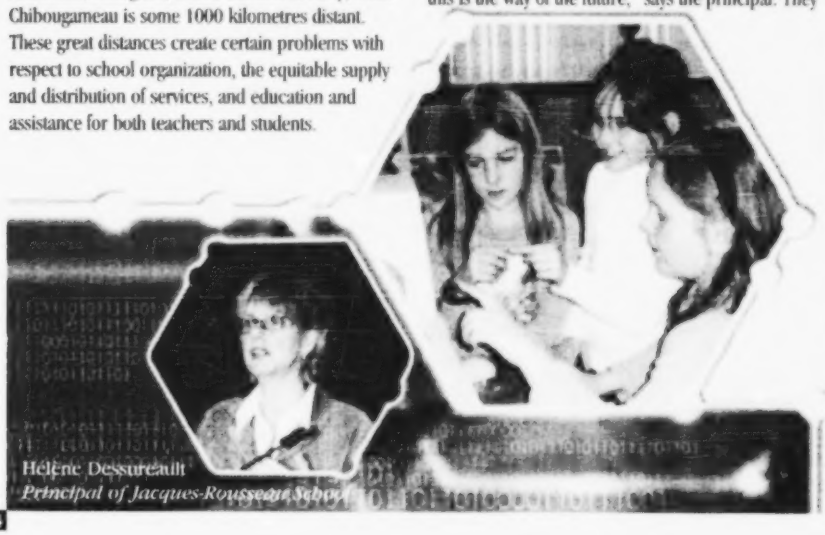
It goes without saying that CEFRIO's action-research, as represented by the *Schools in Remote Regions* project, would attract the attention of a dynamic community like Radisson. The school board administrators, the school administration and staff and the members of the governing board, as well as the representatives of the municipal administration, were also quite taken with the project.

In the Jacques-Rousseau school, the project focuses more on the secondary level, where the supply of services is more problematic due to the limited number of students and their distribution among the different high school levels. Efforts are currently under way to link the school with La-Porte-du-Nord comprehensive school in Chibougamau, located some 1200 kilometres away. Discussions between the school board and service providers have focused on equipping the school with high-speed Internet service that can be used for videoconferencing. Plans have been made to build a room for this purpose; it should be ready for September 2003.

There is a plan to connect the Jacques-Rousseau school to La-Porte-du-Nord comprehensive school in Chibougamau some 1200 kilometres away.

So what do people at the Jacques-Rousseau school want to do? They want to create a community structure, an infrastructure for resource sharing and a link providing access to outside services. "For us, this is the way of the future," says the principal. They are banking on the development of the information highway, which will enable staff and students to access services in non-real time as well as dynamic services in real time. "This is essential to keep people motivated," says Ms. Dessureault. They are also looking to develop a technological convergence and competency centre.

The objective is, after all, to improve the quality of instruction by diversifying educational services and by creating an extended educational and pedagogical community that promotes access to numerous resources, the formation of working groups, collaboration, guidance and the development of professional competencies. "We have many dreams," said Hélène Dessureault. And now all of these can be fulfilled!



Hélène Dessureault
Principal of Jacques-Rousseau School

The Saint-Cœur-de-Marie School

The Saint-Cœur-de-Marie preschool and elementary school is located at Rivière-à-Pierre, in the northeastern part of the Regional County Municipality of Portneuf. This community has fewer than 700 inhabitants. Most of the region's population makes a living in the lumber and quarry industries, but economic conditions have been difficult in recent years. In 1996, the average income fluctuated around $14 800. The unemployment rate rose to 13.5 per cent and the situation has not improved over the years.

The Saint-Cœur-de-Marie school is located in an isolated rural area. It has only 72 students at the preschool and elementary levels. This year there is a class of eight students in early childhood education and a class of 12 students in preschool. There are three multi-age elementary level classes, accounting for 52 students altogether. Of these, 16 are at-risk students and three are students with disabilities who have been integrated into regular classes.

The school is facing a special situation. "Boys' success in school is a strong concern," explains Jacques Moffette, the school principal, who teaches 60 per cent of the time. In this area, manual labour is highly respected, to the detriment of intellectual

learning. Parents are convinced that their sons will find well-paying jobs on building projects as soon as they reach adolescence. "Thus there is a problem with respect to the parents' motivation in promoting education," says the principal. The following figures speak for themselves: over the last five years, 75 per cent of the students were unable to go on to secondary school after completing elementary school.

The school is facing a special situation. "Boys' success in school is a strong concern"

A Warm Welcome

In recent years, the school has had to struggle with violence among its students, particularly during recess. The situation has, however, begun to show signs of improvement, thanks to the efforts of staff members who came on board two years ago and who, since that time, have put an anti-violence program in place. "We now have an atmosphere conducive to learning," the principal assures us.

As in most schools in remote regions with small numbers of students, very rarely is it possible to form groups large enough to enjoy the benefits of certain types of school programs. Moreover, it is difficult to recruit and keep teaching staff.

According to Moffette, "the *Schools in Remote Regions* project was warmly received by the school's staff and governing board, and will be incorporated into its educational project." While the actual content of the project has not been fully defined, one can say that it has three targets in sight: multi-age classes, success—particularly for boys—and the shared management of several small schools. "More specifically, we want to improve the quality of learning and validate the type of network best suited to schools in remote regions," adds the principal, who will oversee the management of two small schools starting in September.

With respect to technology, the school already has a high-speed fibre optics network, along with 17 computers, 14 of which are in the laboratory while three are in the classrooms. There are plans to equip the teachers and the principal with laptops.

"This project is dear to me, I believe in it," says Moffette, "because the success of the students is its objective." There must have been a lot of excitement in the air at Saint-Cœur-de-Marie when the doors opened again for the new school year.

Jacques Moffette
Principal, Saint-Cœur-de-Marie school

A Project With an Eye on Tomorrow

Pascale Sauvé

Areas with rapidly decreasing populations are endeavouring to find imaginative solutions to keep schools open and provide often very small groups of students with the best possible educational service. However, the *Schools in Remote Regions* project launched on June 18 of this year could very well change the situation facing small schools. According to André Vézina, the Deputy Minister of Education, this is "a project with an eye on tomorrow that provides hope for communities concerned about their future."

About 100 people gathered at the Québec City convention centre to attend the official launch of the joint project by the Ministère de l'Éducation du Québec (MEQ) and the Centre francophone d'informatisation des organisations (CEFRIO), both of which are overseeing this effort. This action-research project is aimed at ensuring the survival and development of small rural schools by setting up networks that make use of information and communications technologies (ITC), "thereby providing all young Quebeckers with the same opportunities," said CEFRIO President, Monique Charbonneau.

The *Schools in Remote Regions* project recently got under way with the implementation of pilot projects in three Québec schools: the Jacques-Rousseau comprehensive high school in Radisson (Northern Québec), the Christ-Roi school in Saint-Camille (Asbestos) and the Saint-Cœur-de-Marie school located in Rivière-à-Pierre (Portneuf). Various issues will be considered during this experiment, notably the shortage of teachers, the fact that students live so far away from their schools and the limited number of students in these schools. "The schools will receive continuous guidance and support with an emphasis on the transfer of knowledge," said Josée Beaudoin, Director of CEFRIO's Montréal office and also in charge of project development. Founded in 1987, CEFRIO has taken what it calls an "action-research" approach. This means developing

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working hypotheses on-site, while quickly providing results that are useful to organizations.

The objectives of action-research are, among other things, to foster a better understanding of the conditions under which rural school networks are created, to understand how these networks affect school organization, student-teacher relationships, the allocation of resources, funding, professional development, etc.; to develop viable models that can be applied throughout Québec and to devise strategies for transferring related knowledge to teachers, students, parents, administrators and the community at large.

The project will be carried out over a 20-month period. At least an entire school year will be devoted to the pilot projects. The *Schools in Remote Regions* project is part of the Québec government's goal of connecting villages and regions in order to develop a broadband network. The MEQ has been provided with a $75 million budget for this project.

"They say that regions are often stuck in the past, but the schools of the future will emerge in the regions," concluded André Vézina.

André Vézina
Deputy Minister of Education

Monique Charbonneau
President-Director General of CEFRIO

Josee Beaudoin
Director of the Montréal Office and of Project Development (CEFRIO)

NUMBERS AT A GLANCE

AT PRESENT, 980 000 STUDENTS ATTEND QUÉBEC SCHOOLS, YET DECREASING STUDENT ENROLLMENT IS A REAL CONCERN IN MANY AREAS. ROUGHLY 60 SCHOOLS UNDER THE JURISDICTION OF FRENCH SCHOOL BOARDS HAVE FEWER THAN 40 STUDENTS IN THE YOUTH SECTOR, AND MORE THAN 300 SCHOOLS HAVE BETWEEN 41 AND 100 STUDENTS.

IN THE FUTURE, MANY SCHOOLS WILL BE FACING ISSUES RELATED TO DECLINING STUDENT ENROLLMENT. THE DIRECTION DES STATISTIQUES ET DES ÉTUDES QUANTITATIVES (I.E. THE MEQ'S BUREAU OF STATISTICS) ESTIMATES THAT THE STUDENT POPULATION IN QUÉBEC SCHOOLS WILL HAVE DECREASED BY 25 PER CENT WITHIN 25 OR 30 YEARS.

LE PROGRAMME D'ECHANGES DE JEUNES

Student Exchange Program Sponsored by the Ministère des Relations avec les Citoyens et Immigration

Priority will be given to secondary schools.

OBJECTIVES

- To establish connections between young people from Greater Montréal and the regions of Québec
- To help young people to better understand modern-day Québec
- To promote openness to pluralism and to bridge cultural gaps
- To develop a sense of belonging
- To encourage young people to become active citizens

TARGET GROUPS

- Students from secondary school and Elementary Cycle Three

CONDITIONS OF THE EXCHANGE PROJECT

- The exchanges take place between groups from Greater Montréal and other Québec regions.
- The exchanges are reciprocal; each group visits the other's region.
- The exchanges bring together two groups of 20 to 35 students from the same cycle for periods of 2 to 4 days.
- The exchanges take place in French.
- The exchanges include pedagogical activities before, during and after the visits.

AGENDA AND FUNDING

- The exchange projects take place during the school year.
- Projects may be submitted at any time.
- The MRCI covers transportation costs and a daily allowance per group of $600

COMPLETE INFORMATION ABOUT THE PROGRAM AND THE PROJECT APPLICATION FORM ARE AVAILABLE AT <WWW.MRCI.GOUV.QC.CA>

FOR INFORMATION:
ROBERT SOREL 514-873-3427
or 1-877-620-8600

School Networks— An Alternative to Expatriation

Claudine St-Germain

Paul Inchauspé
Former Commissioner of the Estates General on Education

On June 18 of this year, Paul Inchauspé, who served as commissioner for the Estates General on Education, discussed how, during this broad collective reflection, the role schools play in the development of small, remote communities and the difficulty of ensuring equality of opportunity for all students in those communities was already being recognized. Thus, as early as 1995, technology was seen as part of a possible solution.

"These days it is still difficult to speak of ICT in education without sparking an immediate reaction, whether it be enthusiastic and supportive or sceptical and suspicious," began Paul Inchauspé. "These reactions always revolve around two controversial themes. Is it relevant to introduce ICT for teaching, or better yet, for learning? Does the use of these technologies result in a beneficial reorganization of work, and who do they benefit?"

The pilot experiments carried out as part of the *Schools in Remote Regions* project will certainly answer some of these questions. But according to the researcher, in examining only these aspects of the situation we risk failing to see the real issue they represent for the development of education in Québec: providing conditions that ensure more equality of opportunity for students in small schools. This issue had already been raised during the Estates General on Education. Mr. Inchauspé explained how discussions at that time centred around resources and equality of opportunity. "The present system, with its standards pertaining to the size of groups, the critical mass of resources and the transportation system in place, is intended to give everyone equal access to equivalent education services. In this context, for the sake of equality of opportunity, and to avoid a return to the one-room schoolhouse, small schools are to be closed and students bussed in to better-equipped locations."

Considering the value of equal opportunity as defined by the whole organization of the school system, as well as the success enabled by this organization, the value of maintaining small communities does not seem to weigh in the balance. However, it is becoming increasingly important in all countries that have seen accelerated industrial and urban concentration. "We are witnessing a demographic redistribution that recognizes the importance of small communities and their ability to renew themselves. The fact of the matter is that their fate is not sealed and they are proving it," says Inchauspé.

The question now is this: how can a society that has tried to concentrate its resources in order to ensure equal opportunity, and that now wishes to maintain its small communities, actually provide equal opportunities? According to Inchauspé, the answer was given in the report of the Estates General on Education. "This document deals with the geographic accessibility of schools. It does not speak specifically of small schools, but the situation and the issues are all set out therein: the reassessment of the dominant model of resource concentration as the sole means of ensuring equitable access to opportunity; the potential of schools to develop local communities; the risk of 'expatriation'; the use of information technologies to remove some of the barriers to equal opportunity in remote communities."

The *Schools in Remote Regions* project will help us understand how the education system can respond to the challenge of equal opportunity in an environment characterized by demographic decline and small communities' determination to keep their schools. The project will also stimulate serious reflection on the situation of remote schools. Mr. Inchauspé believes that it is not unreasonable to expect that in a few years small schools, having developed a wealth of interactions through networks, will be attracting innovative teachers who will develop an expertise uniquely adapted to their work situation and contribute to the broadening of network communications.

The School Networks Concept

Toward Equal Opportunity

Pascale Sauvé

During the month of April, the partners in *Schools in Remote Regions* began to define the project and to establish the conditions for its success. They evaluated the needs and expectations of the schools, documented the literature on the subject and sought out experiments that have taken place here and elsewhere.

Since September, researchers have been devoting all their attention to fieldwork, operating on the premise that the project will be evaluated, refined and validated while in progress. This will involve coordinating theory and practice.

The project entitled *Schools in Remote Regions* is based on several focuses of reflection and sources of inspiration: equal opportunity, implementation of the educational reform (which calls for higher standards), concern about the decreasing population in remote regions and its effects on village schools, and the role of schools in small communities.

Equal opportunity for all young people in the province, regardless of where they reside, is a high-level priority: "This is crucial, and is first and foremost what motivates us," says Thérèse Laferrière, a researcher on the project, a professor of education at Université Laval, the director of Téléapprentissage communautaire et transformatif (TACT) and a researcher with the Centre de recherche et d'intervention sur la réussite scolaire (CRIRES).

The Concept

Schools in Remote Regions is predicated on greater access to information and communications technologies (ICT). This project gives school staff an opportunity to "get connected," to become part of the school network in order to improve the educational services offered to students.

It must be said that the Québec education system has already acquired a certain measure of expertise in this area, and is ready to move forward. The *Schools in Remote Regions* project was, of course, designed and developed with the achievements of recent years in mind, particularly with respect to the integration of school networks, distance education, the educational application of ICT, the creation of RÉCITs (networks of consultants working together to share their expertise in ICT), virtual or delocalized schools and localized learning communities. Critical reflection on the project has already begun. The concept also draws upon the results of numerous projects already carried out and documented, research on the integration of school networks and the contribution of ICT to teaching and learning, as well as articles in magazines from here and elsewhere. A preliminary review of the literature on the subject and relevant cases may be consulted at the following Web address: <www.fse.ulaval.ca/fac/tact/fr/html/apportnt.html>

In the Field

The project will be tested in three Québec schools. Researchers have already defined a number of precepts essential to the project, and certain conditions conducive to its success.

First, schools in remote regions must be connected to the Internet by means of fibre-optic broadband technology. "This is the kick-off point. A high-speed hook-up is absolutely necessary, otherwise we'll lose time," the researcher explains. Without it, there's a risk of quickly losing users' attention and motivation. The staff's actions must also reflect an innovative approach. "We'll never succeed without creative people," says Thérèse Laferrière. They are also depending on people who find teamwork and collaboration stimulating, and are looking for situations where the learning community is the outgrowth of the basic organizing principle. We are already aware that, to obtain compelling results, action-research must take certain key elements into account. This will mean defining clear educational goals, encouraging students' involvement, drawing upon their capacity to learn, providing support, supervision and guidance, and promoting digital resources (individual/computer). This must be done without forgetting about human interaction, and while creating learning communities and partnerships. An essential point to keep in mind is this: even if the project relies on the integration of technology in schools, machines will never replace human beings. The proof of this is that the dropout rate is 70 per cent in courses where there is little or no human interaction.

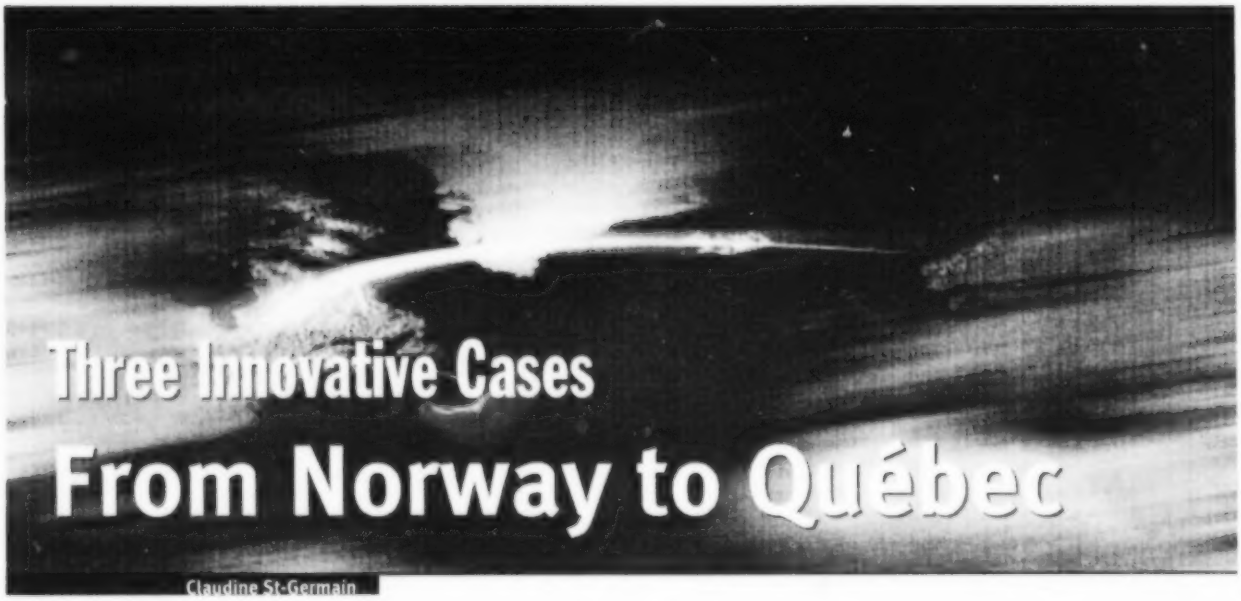
For the moment, a number of questions remain unresolved, which provide the focus for the action-research. The results will be known in a little more than a year, which gives CEFRIO and its partners time to field test and to draw conclusions. "Let's move boldly ahead in a balanced way," Thérèse Laferrière proposes. "We'll see what happens."

Thérèse Laferrière

Myths and Beliefs

Thérèse Laferrière has noted a certain number of myths that persist with respect to the integration of new technologies in the classroom. "It is important to maintain a critical stance," the researcher recommends. Here are some examples:

- Putting computers into schools automatically improves learning.
- There are certain exemplary objectives and practices that everybody agrees on with respect to the use of computers in the classroom.
- Once the foundations for using ICT have been laid, teachers are ready to apply them effectively.
- The school's or school board's plan for integrating ICT is usually sufficient for using them effectively.
- Equal opportunity can be achieved by ensuring that schools in disadvantaged neighbourhoods have the same student/computer ratio as that found in schools which are better off.



Three Innovative Cases
From Norway to Québec

Claudine St-Germain

Québec is not the first to make use of new technologies to meet the needs of remote schools.

Thérèse Laferrière, professor at the Faculté des sciences de l'éducation of Université Laval, has looked at some of the experiments in school networking carried out around the world. These projects have taken several forms. For example, students may have access to people (teachers, peers, specialists), to activities (lessons, courses, projects), to digitalized educational resources on the Web or to data for research purposes.

Connecting the Islands of Norway

Norway is a country of 4.7 million people spread throughout several cities and regions that extend as far as the Arctic Circle. The latter include a multitude of small islands dotting the North Sea. Norwegians attach a great deal of importance to the preservation of these small communities and, since the 1950s, have maintained a vigorous regional development policy.

Nevertheless, according to Thorval Astrud of the Norwegian ministry of education, schools in the remote regions must still struggle to survive. "The longer young people stay in their home village, the more likely they are to return after their post-secondary studies. Therefore it is essential to provide elementary and secondary education on-site in the small communities."

For the schools of Karlsoy and Skogsfjorvatn, the answer may lie in information and communications technologies (ICT). The first school, located on an island of 80 inhabitants, has 13 students, while the second, a few kilometres away, has four students.

Thorval Astrud
Norwegian Ministry of Education

Ola Erstad
Researcher at Oslo University

Since 1998 they have been part of a project whose purpose is to verify whether videoconferencing can be a useful tool for maximizing available educational resources in these schools in order to keep them open.

The classrooms at Karlsoy and Skogsfjorvatn are equipped with several computers, a television monitor, a miniature camera and a dedicated telephone line. This equipment can be used in a number of ways. For example, a teacher can lead an activity with students from both schools at the same time. Or the students from one class can present their work to the students on the other side of the fjord. Ample use is also made of the Internet. Each child has his or her own Web page on the site that presents their school to the whole world.

"A school with only five students may not be in as precarious a position as it once was," says Ola Erstad, a researcher at the University of Oslo. "But it must be understood that these municipalities need partners to keep their schools open, and this cannot be accomplished in one day."

The Situation in Canada

Alberta is something of a pioneer in the field of virtual education. Seventeen on-line programs are currently being offered to students at the elementary and secondary levels. Most of these programs are managed by local schools.

The government of British Columbia recently changed its legislation to allow school boards to

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create their own on-line programs. This year, Vancouver is offering students eight courses on-line. In Saskatchewan, there is a distance-education school for students in remote regions to help them complete their secondary education. Manitoba has long had a videoconferencing system in place. Virtual education serves mainly to provide options for students who, for various reasons, cannot take their courses at school.

In Ontario, school boards are setting up their own virtual courses. One interesting initiative comes from the francophone schools of northern Ontario. These schools have formed a cooperative to produce French courses with the aim of providing quality teaching for all students in the region.

Due to the low population density in New Brunswick, its 21 francophone secondary schools are very widely dispersed. For this reason, many rural schools or schools serving minority francophone populations offer much less variety in elective courses than schools in the urban centres. Since all schools are connected to a fibre optic network, multimedia courses are offered through the Internet. Courses are given by a distance-education teacher who looks after course planning, management and supervision. In each participating school, a facilitator is assigned to supervise the students enrolled in one of these courses. The facilitator, who maintains contact with the distance-education teacher, is responsible for local management and supervision.

In Nova Scotia, the government has concentrated its efforts on adult education, which is generally carried out in the classroom. But in Halifax, some courses for people returning to school are now offered over the Internet. Newfoundland and Labrador have been working for a number of years to reach schools in outlying regions. Having made wide use of audio-conferencing, they are now turning to a combination of CD-ROMs, Internet courses, and live on-line courses, especially for secondary school students.

An Experimental Broadband Telecommunications Network

Teaching and Technology: A Winning

Alexandre Robillard

Remote schools are not the only ones involved in telecommunications projects. Three metropolitan school boards have laid down kilometres of fibre-optic cable to connect themselves together. This experiment could give birth to a huge education Intranet in Québec.

Three school boards in the Laval-Laurentides-Lanaudière region–the Commission scolaire des Affluents, the Commission scolaire de Laval and the Commission scolaire de la Seigneurie-des-Mille-Îles–are hard at work building a digital superhighway. Though not a megaproject by James Bay standards, their project still fits the bill as a large-scale undertaking.

Launched in the fall of 2001, the network project was initiated by the Direction des ressources didactiques (DRD), the teaching and learning resources department of the Ministère de l'Éducation (MEQ). The DRD served as a catalyst by asking the three school boards, who had already set up a broadband telecommunications network together, to take the experiment further and intensify their educational and technological partnership.

A Network

These three school boards' networks are interconnected into a sort of Intranet whose purpose is to facilitate the sharing of expertise, resources and services. Managed by the school boards, this Intranet is available to the elementary and secondary schools on their territory as well as the adult education centres and administrative offices. The numbers are impressive: 120 000 students in 240 schools have access to 20 000 computers that are part of a brand-new network connected by 700 kilometres of fibre-optic cable. "We are looking at part of the infrastructure for the digital education network under construction in Québec," emphasized DRD director Roger Vézina.

120 000 students in 240 schools with 20 000 computers through a brand-new network connected by 700 kilometres of fibre-optic cable.

The Intranet extends to several buildings and offices of municipal partners. It includes English schools on the school boards' territory as well as some private schools, colleges, universities and healthcare institutions.

The usual buzzing of saws and banging of hammers may not fill the air, but there is construction going on. "Very few fibre-optic networks offer the bandwidth we need," noted Vézina. The high-speed connections available from commercial suppliers range from 1 to 10 megabits per second (Mbps). The school board networks involved in this project run at 100 Mbps. "The technology we are deploying is at the cutting edge. Many are following our progress with interest," he added.

Content

As part of this experiment, last year the three school boards developed projects to integrate information and communications technologies (ICT) in teaching and learning. The projects are currently up and running in the schools. They are meant to provide venues for experimentation with ICT with a view to enriching the learning process at the preschool, elementary and secondary levels. "We want to identify the conditions needed to use ICT for educational purposes," summarized Vézina. Greater access to ICT is just a first step on the road to actually using these resources in teaching and learning.

The Commission scolaire de la Seigneurie-des-Mille-Îles, for its part, has created a "research and resources" portal to help secondary school students with research assignments. Thanks to partners like Gesca and Cédrom-SNI, students at the three school

Combination for Student Success

Roger Vézina is the director of the Direction des ressources didactiques.

boards have access free of charge, through a Web site, to the archives of seven French-language dailies (*La Presse, Le Soleil, La Tribune, Le Nouvelliste, Le Quotidien, Le Droit, La Voix de l'Est*). Students may also log on to Biblio branchée, which provides access to English-language newspapers that can be used in English as a second language courses. "We made choices based on the competencies targeted in the Québec Education Program, such as using information to develop research skills," explained Jocelyne Dion, instructional media consultant at the school board.

At the Commission scolaire des Affluents, the focus of the ICT integration project is on using Télé-Québec's digitized educational videos, which are available for downloading on the Internet. At the Commission scolaire de Laval, the educational dimension of ICT will be explored through a project aimed at producing digital videos for teacher in-service training.

To Be Continued...

The experiment will continue this year and may be renewed in 2003-2004. It will be interesting to see whether greater access to on-line resources will necessarily have an impact on their integration in the classroom and on student success. One thing is sure, though, the issue of content and copyright will have to be examined. "No organization or body currently has the authority to negotiate agreements with digital copyright holders. We wish to seek permission to use other digital works for educational purposes," said Vézina.

In addition to partnerships such as that developed with the Commission scolaire de la Seigneurie-des-Mille-Îles, the DRD director believes that government ministries could be interested in disseminating educational applications of their documentation. But the overall picture as to how this would work is still unclear. "We don't have a crystal ball to predict how ICT will develop in the future," joked Vézina.

His department will, however, continue to make new technologies more accessible by making them simple and transparent for users in order to provide teachers and students with an increasingly wide range of teaching and learning media and resources.

The results of this experimental project will likely be useful to other school boards given that the MEQ, together with other ministries, is spearheading Villages branchés, the Québec government's program to improve connectivity. The Québec government has earmarked $75 million to connect schools, school boards, municipalities and public libraries through a high-speed telecommunications network.

Bridging the Gaps

Distance Education and Community Networks Increase Access for Students in Small Communities

Eve Krakow

Connie Gray is about to begin teaching her Math 536 class. She sits down in front of her computer and logs onto her "classroom." One by one, as her students log on, their names appear at the bottom of her screen. "Good morning, " she says into the microphone. "Good morning," she hears them answer from her speakers, or sees them type on-screen.

Connie Gray
Mathematics Teacher with DECN

Connie Gray is about to begin teaching her Math 536 class. She sits down in front of her computer and logs onto her "classroom." One by one, as her students log on, their names appear at the bottom of her screen. "Good morning, " she says into the microphone. "Good morning," she hears them answer from her speakers, or sees them type on-screen.

Throughout the class, she will put notes up on screen as she introduces new concepts. She'll ask students questions, have them solve problems on-screen, or have them work on exercises on their own—just like in any regular class. The difference: one student is in the Gaspé, another in Témiscamingue, and another in Chandler. Their schools couldn't afford to hire a teacher to give the course to just a few students; with the new Distance Education and Community Network (DECN), these students are being given an equal chance.

DECN is the brainchild of three school boards: Western Québec, Central Québec, and Eastern Shores. "Four years ago, we realized we were facing the same problem of declining enrollment in our rural schools," says Diane Fyfe, director general for the Western Québec School Board. "How were we going to give the courses when it's difficult to get science and math teachers even in the urban areas? Also, sometimes there just isn't the complement of students to warrant putting a teacher in."

After submitting a project proposal, under the Canada-Québec Agreement the three boards were granted $2.4 million over three years to set up a distance education network. The funding is to support the administrative infrastructure, research, teacher training and giving the courses—it is not intended for the computer hardware.

Margaret Dupuis, a former science teacher and high school principal, was chosen to coordinate the project. "I was put in charge of finding what was out there, in other provinces, the U.S. and Europe. The school boards knew they wanted real-time instruction (where the teacher and students are in direct contact in real time). There are a lot of models out there for virtual instruction, but not a lot of models of synchronous or real-time instruction," she says.

"When Margaret asked me if I would consider being involved in distance education, my first picture of it was that I would be teaching with a blackboard and it would be like videoconferencing," recalls Gray, who formerly taught math at Pontiac High School in Shawville. As she became involved in the research and experimentation, however, she realized it would involve an entirely different method of delivery.

The research team finally chose a platform called Horizon Live, and Gray spent the summer practising and preparing. The program was piloted last year by the Western Québec School Board: Gray taught Math 536 to twelve students in six different schools, divided into two groups. The pilot was a success. This year, all three boards are involved: there are 5 teachers giving on-line instruction to 60 students in 10 schools. There are eight groups in all: three Math 536 classes, one Math 436, one physics, one physical science, one chemistry and one history.

Gray was in charge of training the other four teachers that came on board. She gave the training on-line, using the same system that would be used with the students. Each teacher contributed his or her own experience. Frédérique Grégoire, a math teacher in Chibougamau, had been a supervisor for the program at his school the previous year, so he already had some idea of its potential. Andy Ross, teaching physics in Escouminac, had experience teaching physical science using NetMeeting (which uses microphones and webcams). "So it wasn't just my sharing with them, but we shared with each other," says Gray.

Yet for Shireen Vanbuskirk, a chemistry teacher in Bonaventure, and François Turgeon, a history teacher in Québec City, distance education was entirely new. "We looked for people eager to try something new, and they became our team," explains Dupuis. "It's very hard to get teachers to try something different—and this is very different. Most people know of videoconferencing, but we knew that wouldn't work: when you're trying to send out a signal to Metis Beach, they just don't have the bandwidth."

The network's physical headquarters are the DECN Research & Development Centre, housed in Dr. S. E. McDowell Elementary School in Shawville. In addition to Dupuis and Gray, the team includes Anne

McGowen, pedagogical administrator, and Tim Scobie, technical advisor. The offices also serve as the DECN centre for Western Québec, since each school board has its own centre with a DECN facilitator (part time).

At the moment, the network serves 12 sites: Bonaventure, Campbell's Bay, Chandler, Chibougamau, La Tuque, Low, Manawaki, Metis Beach, Nouranda, Témiscamingue, Tetford Mines and Val d'Or. Eventually, they hope to expand the program to all the schools in the three boards. "I think it's just the tip of the iceberg, because there are a lot of schools that are no longer able to offer options," says Dupuis.

"Our goal is not to replace anybody, but to give all kids an equal opportunity without putting more strain on teachers and increasing their workloads," she emphasizes. "In most cases, we have one or two students per school. We don't go higher than five—if they have more than five students for a class, they should have a teacher there."

There is also potential to use the infrastructure for tutoring, summer school, home schooling, professional development for teachers and staff, and even board meetings. It's all very exciting—and all very new.

"This is all very new to all of us," says Dupuis. "There's a lot of trial and error. We're learning as we go."

Inside a DECN Classroom

If you have the image of videoconferencing or webcams in mind, distance education using a platform such as Horizon Live may be hard to picture. What does a class look like? Does it take a special kind of teacher? A special kind of student?

Before each class, Connie Gray creates a PowerPoint presentation, which she e-mails to her students for them to print out and use as a worksheet. Throughout the class, Gray uses the microphone to talk to the students. They can respond by audio, using their own mikes, or by typing messages, as with Internet chatting. She uses the main part of the screen as her blackboard, with the PowerPoint slides serving as the blackboard notes or exercises. She can add to the slides by typing in additional information, or use her Wacom pen (a graphics pen used in conjunction with an electronic tablet) to make hand-written annotations and circle or underline things. Likewise, students can use their graphics pen to solve an equation on the screen, in the same way that they would come up to the board in a regular classroom.

The software has all sorts of features teachers can use: Gray can assign each student a different colour to keep track of who's who; a keystroke wipes the screen clean, without erasing the information initially on the slide; students can be moved into separate discussion rooms to work in small groups; she can bring them all to an outside Web site and have them pair up to play a math game; a yes/no polling system can be used for a show of hands.

On the site end, students may be one or two to a computer. They work with their textbook and notes, and use the microphone, keyboard and graphics pen to communicate with the teacher. Each school has a facilitator (a teacher, the principal or the school secretary) who serves as the liaison and arranges for copies and supervision during tests, for example.

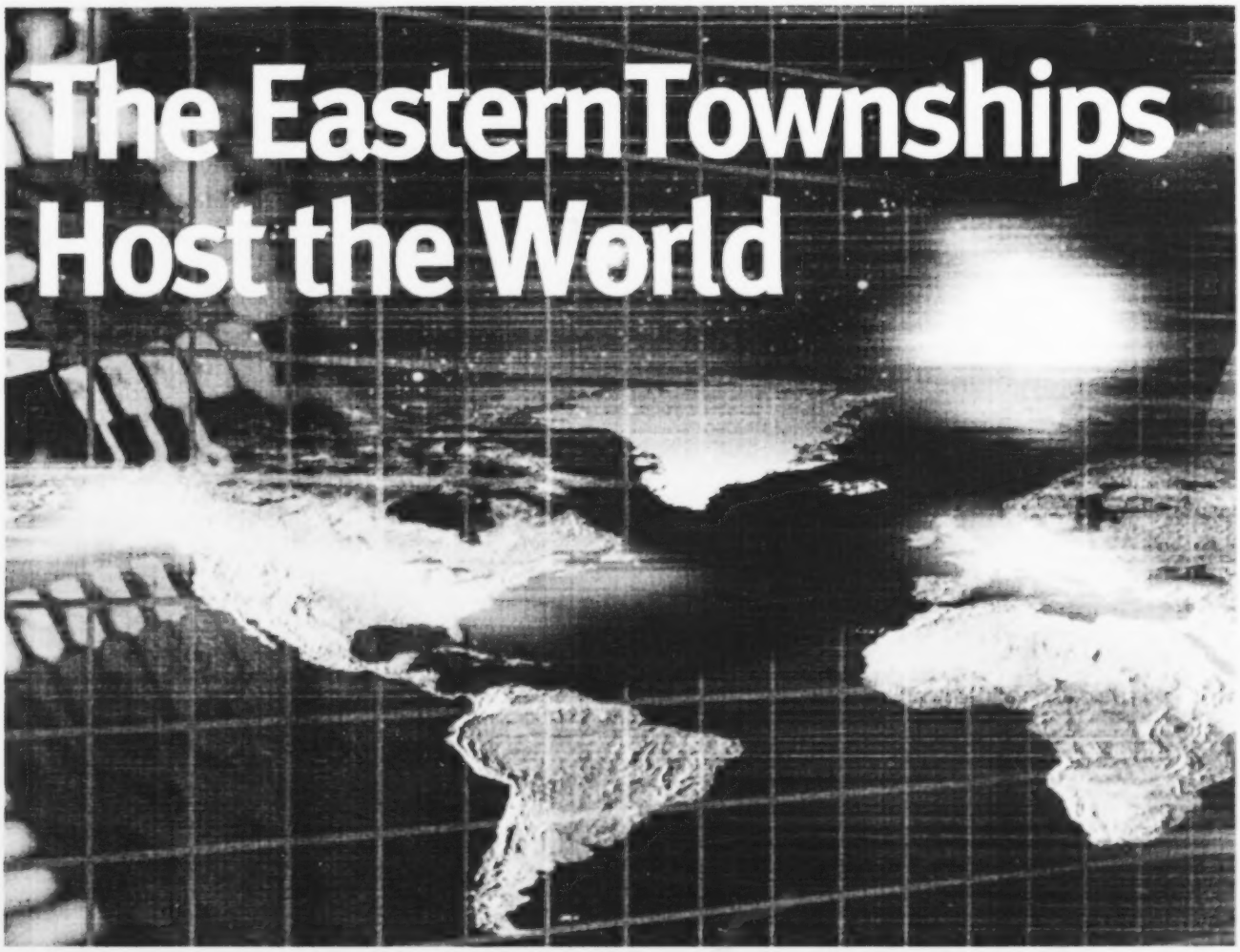
Students don't necessarily have to be academically strong to take an on-line course, says Gray, but they have to be hard workers and able to concentrate. "It takes a special kind of concentration to take a course on-line, so that students are not easily distracted during the teaching time. In many of these sites, students don't have a supervisor there all the time. They might have a teacher who looks in on them, but basically they need to be self-motivated. They have to be quite committed and focused."

As an on-line teacher, the biggest difference is "your awareness of the students, as far as keeping them involved," says Gray. "Because it's not visual, you have to develop a different kind of awareness. The idea is not to put them under pressure, but just to make sure they're keeping up and feeling okay about things."

The other difficulty is getting them to talk. "Sometimes they'd rather type than speak. So we do our audio and microphone checks, and sometimes I'll say to one student, 'You're coming through really well today,' and try to encourage him or her to answer some questions or explain an answer aloud. Because to me, that's a nice part of it, the actual speaking on line."

Says Gray, "One teacher who had taught using NetMeeting had told me that a person who enjoyed teaching in a regular classroom would enjoy this—that once you get comfortable with the technology, basically, it's teaching. And I've come to realize that that's true."

The Eastern Townships Host the World



Claudine St-Germain

In July 2003, Sherbrooke will host the IAAF World Youth Championships, an event that will bring together the best athletic talents from around the world. The entire region is gearing up for the celebrations, and schools are no exception.

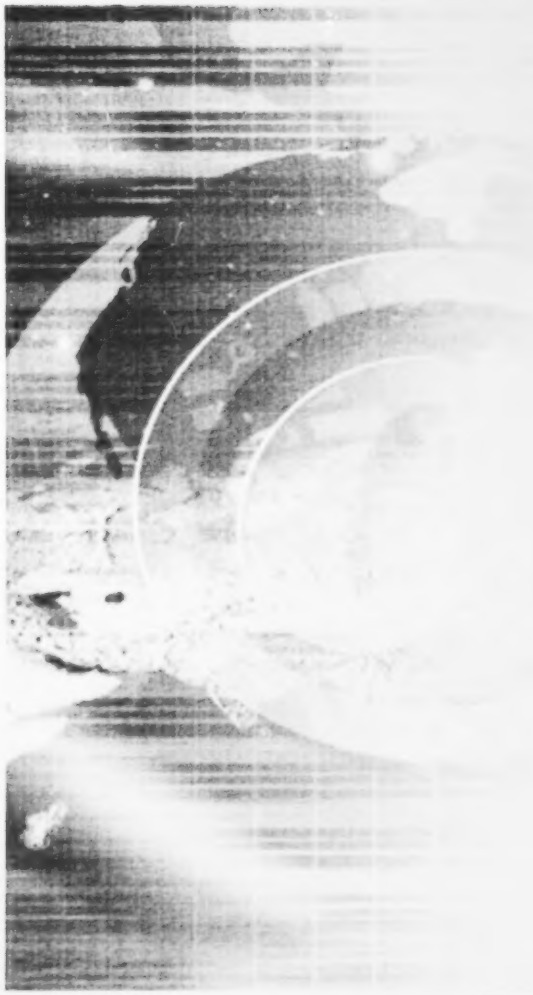
The Eastern Townships will witness a major event next summer, involving 2000 athletes from 160 countries, 2000 volunteers, 2000 students participating in the opening ceremonies, and an expected 40 000 spectators. Clearly, the World Youth Championships will be the sports meet of the summer.

With so many visitors from around the world, this is a golden opportunity for schools to undertake stimulating projects with their students, especially since the event spotlights 15-to 17-year-old athletes and fosters an openness to the world and healthy living. For this reason, the regional education community is playing an active role in an educational program that is related to the Championships and that will support the implementation of the Québec Education Program.

Yvon Lachance was appointed by the Ministère de l'Éducation to coordinate the activities related to this project. His role is to foster the development of integrated pedagogical projects related to the Championships, to provide participating schools with support and to create links between the schools and the event's organizing committee.

A retired physical education teacher, he speaks enthusiastically about all the projects that could be created within this context. "The large-scale project that will enable the development of a wide variety of other activities has been entitled 'Adopt a Country.' The goal is for every school in the area to adopt one of the countries taking part in the Championships. To welcome the athletes of a given country, students may create a welcome banner with a text written in the language of the country and an illustration of the country's flag. Banners thus created will be exhibited at the stadium where the competitions will be held. This is only one example of the many initiatives that may be taken and that will help to develop the creativity of the various schools so that they carry the project forward."

Links will also be created between schools in the region and Montréal schools with a multicultural population. For instance, Montréal-area students of Russian origin may carry on a correspondence with students from the school that has adopted Russia, in order to supply them with knowledge of the country. In return, students from the Eastern Townships could provide them with information about the Championships.



By the end of the school year, students who want to continue the adventure until the start of the Championships will be able to do so through the cultural and sociocultural activities organized for the event. And how about those athletes from the adopted countries whom they will want to hear from? Each delegation attending the Championships will have its cultural attaché who will, if possible, facilitate contact between the students and the athletes.
As for Québec schools from outside the region, they may catch some of the atmosphere of the Championships if they so wish. Even without the support intended for schools in the Eastern Townships, they may also adopt a country and create projects related to the event. For example, they can pair up with a school from the region and exchange information and activities with each other.

"Students who have already heard about the project are thrilled," says Lachance. "My dream is that our project will serve as a model for the entire school network during future international events to be held in Québec."

For more information on the World Youth Championships and the educational program related to it, go to <www.sherbrooke2003.ca>

A Host of Activities

Activities linked to the broad area of learning, Health and Well-Being, will also be organized. Yvon Lachance is working on a health passport that students will be asked to fill out, which will raise their awareness of the importance of physical activity. Moreover, young athletes will get to participate in a track and field competition in May, held at the same spot where the real World Youth Championships will take place two months later.

As another example of a fruitful collaboration between the education community and the organizing committee of the Championships, at the Centre de formation professionnelle 24-juin of the Commission scolaire de la Région-de-Sherbrooke, students will help prepare the event by creating several projects within the framework of their desktop publishing, printing and woodwork courses. This is a rewarding and mobilizing initiative that transforms schoolwork into community participation.

Podi the mascot with Bruny Surin, representing the athletes

The mascot was chosen through a contest held last spring in the elementary and secondary schools under the jurisdiction of the Commission Scolaire de la Région-de-Sherbrooke. Podi, a nice big blue dog, is based on a drawing by Cindy Bélanger, who was a grade six student last year at École La Passerelle in Waterville. Its name refers to a podium and is based on a proposal by Richard Leroux, who was also a grade six student at École St. Antoine in Lennoxville.

Podi is the official representative of the 3rd IAAF World Youth Championships in Athletics and will be pleased to visit your school. Simply contact the organizers through the Web site.

For teachers of français, langue seconde

Ce site accessible depuis août 2002 offre un répertoire de livres de fiction et de livres documentaires pour les jeunes de 5 à 12 ans. Vous y trouverez des ressources visant à faciliter le développement de l'ensemble des compétences du Programme de formation de l'école québécoise et l'atteinte des objectifs des domaines généraux de formation.

Au-delà des ressources littéraires et documentaires, ce site constitue un véritable laboratoire pédagogique et culturel. Les outils de recherche, les nombreux liens qu'on y retrouve entre les livres ainsi que les pistes d'exploration suggérées permettront aux intervenants d'exploiter la grande richesse des livres du Québec et de l'ensemble de la francophonie.

LIVRES OUVERTS est un outil formidable pour les professeurs mais aussi pour tous ceux qui sont en contact avec les enfants. Les responsables de la bibliothèque de l'école, l'équipe de direction et de professionnels ainsi que l'ensemble des parents pourront profiter largement des ressources que LIVRES OUVERTS met à leur disposition. Nous vous invitons à diffuser cette information et à promouvoir l'utilisation de cette ressource.

The Story Behind RÉCIT

Claudine St-Germain

RÉCIT (Réseau pour le développement des compétences par l'intégration des technologies) is entering its third year. What follows is an introduction to an active player in the education community. RÉCIT's mission is to support the implementation of the education reform through, among other things, the increased integration of information and computer technologies (ICT) in teaching and learning.

RÉCIT includes local and regional services. Local services are available from each school board. One or more resource persons are appointed to provide teachers with training and support in the area of ICT. They focus on the testing and creation of student learning projects and foster an effective regional and provincewide dialogue for the development of a network culture throughout the school system.

There are also ten provincewide RÉCIT services. Five are focused on the subject areas of languages, mathematics, science and technology, arts, social sciences and personal development. Five others target specific sectors: preschool education, special education, adult education, vocational and technical education and the anglophone community. The Ministère has granted certain school boards the mandate to offer a provincewide service. Their mandate involves carrying out research, development and ongoing training related to the use of ICT within the targeted subject area or student population, as well as building an effective partnership with regard to ICT at the provincial level.

LANGUAGES
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CS Marie-Victorin
André Roux
CS Marie-Victorin

ARTS
André-Caroline Boucher
CS des Patriotes
Yves Lemay
CS des Patriotes

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For more information, go to <www.recit.qc.ca>

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